Ms. Pam Shideler
Heartland Aluminum
P. O. Box 150
Warren, Indiana 46792

Re: 069-16043
First Minor Permit Revision to
FESOP No. 069-14274-00060

Dear Ms. Shideler:

Heartland Aluminum was issued a FESOP on August 21, 2001, for operating a secondary metals reclamation facility. An application for certain changes to the FESOP was received on May 21, 2002. The changes related to the increase in the maximum throughput of furnace AS1000 from 0.5 tons per hour to 0.7 tons per hour. Pursuant to the provisions of 326 IAC 2-8-11.1 a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document.

Pursuant to 326 IAC 2-8-11.1, the FESOP shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this permit revision which includes this letter, the attached Technical Support Document, and revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Madhurima Moulik, at OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Madhurima Moulik or extension 3-0868, or dial 317-233-0868.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
mm
cc: File - Huntington County
Huntington County Health Department
Air Compliance Section Inspector - Ryan Hillman
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

Heartland Aluminum
125 South Nancy
Warren, Indiana 46792

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F069-14274-00060	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: August 21, 2001 Expiration Date: August 21, 2006

First Minor Permit Revision No.: 069-16043	Pages Modified: 5, 28
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a secondary metals reclamation operation.

Authorized individual: Michael Haggerty

Source Address:	125 South Nancy, Warren, Indiana 46792
Mailing Address:	P.O. Box 150 Warren, Indiana 46792
SIC Code:	5093
Source Location Status:	Huntington
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source under PSD Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) aluminum sweat furnace identified as AS-1000 with a maximum capacity of 0.70 tons of scrap metal processed per hour. The furnace is equipped with a primary metal melting chamber utilizing a natural gas fired burner rated at 2.0 million (MM) British thermal units (Btu) per hour total; a secondary molten metal holding chamber utilizing a natural gas fired burner rated at 1.0 MMBtu per hour; and a 0.4 MMBtu per hour natural gas fired thermal afterburner utilized for particulate matter and volatile organic compound control exhausting at one (1) stack identified as EP-01.

(b) One (1) aluminum sweat furnace identified as AS-990 with a maximum capacity of 1.25 tons of scrap metal processed per hour. The furnace is equipped with a primary metal melting chamber utilizing a natural gas fired burner rated at 5.0 million (MM) British thermal units (BTU) per hour total, and a 1.0 MMBtu per hour natural gas fired thermal afterburner utilized for particulate matter and volatile organic compound control exhausting at one (1) stack identified as EP-02.

A.3 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

A.4 Prior Permit Conditions

(a) This permit shall be used as the primary document for determining compliance with applicable

requirements established by previously issued permits and shall supersede existing Minor Source Operating Permit (069-10650-00060), issued on June 19, 1999.

SECTION D.1 FACILITY OPERATION CONDITIONS

(a) One (1) aluminum sweat furnace identified as AS-1000 with a maximum capacity of 0.70 tons of scrap metal processed per hour. The furnace is equipped with a primary metal melting chamber utilizing a natural gas fired burner rated at 2.0 million (MM) British thermal units (Btu) per hour total; a secondary molten metal holding chamber utilizing a natural gas fired burner rated at 1.0 MMBtu per hour; and a 0.4 MMBtu per hour natural gas fired thermal afterburner utilized for particulate matter and volatile organic compound control exhausting at one (1) stack identified as EP-01.

(b) One (1) aluminum sweat furnace identified as AS-990 with a maximum capacity of 1.25 tons of scrap metal processed per hour. The furnace is equipped with a primary metal melting chamber utilizing a natural gas fired burner rated at 5.0 million (MM) British thermal units (BTU) per hour total, and a 1.0 MMBtu per hour natural gas fired thermal afterburner utilized for particulate matter and volatile organic compound control exhausting at one (1) stack identified as EP-02.

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-7-10.5, WITH CONDITIONS LISTED BELOW.

General Construction Conditions

D.1.1 General Construction Condition

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.1.2 Effective Date of Permit

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.1.3 Construction Condition Applicability

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for modifications pursuant to 326 IAC 2.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.4 General Provisions Relating to HAPs [326 IAC 20-1-1] [40 CFR Part 63, Subpart A)]

The provisions of 40 CFR 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the sweat furnaces AS-990 and AS-1000, except as otherwise specified in 40 CFR 63, Subpart RRR.

D.1.5 Particulate Matter (PM) Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from sweat furnaces AS-990 and AS-1000 shall not exceed 4.76 and 3.23 pounds per hour, respectively.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Minor Permit Revision to a Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	**Heartland Aluminum**
Source Location:	**125 S Nancy, Warren, Indiana 46792**
County:	**Huntington**
SIC Code:	**5093**
Operation Permit No.:	**F 069-14274-00060**
Operation Permit Issuance Date:	**August 21, 2001**
Permit Revision No.:	**069-16043-00060**
Permit Reviewer:	**Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed a revision application from Heartland Aluminum relating to the operation of a secondary metals reclamation operation. The revision is related to the increase in the maximum throughput of furnace AS1000 from 0.5 tons per hour to 0.7 tons per hour.

Existing Approvals

The source had been operating under previous approvals including, but not limited to, the following:

(a) MSOP No. 069-10650-00060, issued on June 9, 1999.

(b) FESOP No. 069-14274-000600, issued on August 21, 2001.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Minor Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on May 21, 2002.

Emission Calculations

The design throughput for the AS1000 furnace has increased from 0.5 tons per hour to 0.70 tons per hour.

The following calculations determine the AS1000 emissions based on maximum design throughputs of 0.50 (old capacity) and 0.70 tons/hr (new capacity), emission

factors from EPA AP-42, Chapter 12.8, emissions before controls, and 8760 hours of operation.

Tons/hr * Ef (lb/ton) * 8760 hr/yr * 1/2000 ton/lb = tons Pollutant/yr

AS1000	PM 14.5 lb/ton	PM10 13.05 lb/ton	SO2 3.5 lb/ton	NOx 0.60 lb/ton	VOC 0.20 lb/ton	CO neg. lb/ton
Sweat Furnace (0.5 tons/hr)	31.8	28.6	7.7	1.3	0.4	-
Sweat Furnace (0.7 tons/hr)	44.5	40.0	10.7	1.8	0.6	-
PTE Increase	**12.7**	**11.4**	**3.1**	**0.5**	**0.2**	**-**

Total Unrestricted Potential to Emit of Entire Source:

The total unrestricted potential to emit is the sum of the furnace and combustion emissions. The potential to emit of furnace AS990 and the combustion units are based on the Technical Support Document for FESOP No. 069-14274-00060. The following table is a summary of these emissions.

	PM tons/yr	PM10 tons/yr	SO2 tons/yr	NOx tons/yr	VOC tons/yr	CO tons/yr	Comb. HAP tons/yr
Furnace (AS1000 and AS990)	123.85	111.43	29.93	5.10	1.74	-	neg.
Combustion[1]	0.31	0.31	0.03	3.87	0.22	1.65	neg.
Emissions Before Controls	**124.16**	**111.74**	**29.96**	**8.97**	**1.96**	**1.65**	**neg.**

[1] Based on Technical Support Document for FESOP No. 069-14274-00060

POTENTIAL EMISSIONS AFTER CONTROLS:

The PM, PM10, and VOC emissions from the sweat furnaces are controlled by an afterburner with a design control efficiency of 97%.

The following calculations determine the PM, PM10, and VOC emissions after controls based on the a control efficiency of 97% and the estimated PM/PM10 emissions before controls.

PM: 123.85 tons/yr * (1 - 0.97) = 3.72 tons PM/yr
PM10: 111.43 tons/yr * (1 - 0.97) = 3.34 tons PM10/yr
VOC: 1.74 tons/yr * (1 - 0.97) = 0.05 tons VOC/yr

All other emissions are uncontrolled. The following is a summary of the emissions after controls.

	PM tons/yr	PM10 tons/yr	SO2 tons/yr	NOx tons/yr	VOC tons/yr	CO tons/yr	Comb. HAP tons/yr
Furnace (AS1000 & AS990)	3.72	3.34	29.93	5.10	0.05	-	-
Combustion	0.31	0.31	0.03	3.87	0.22	1.65	neg.
Emissions After Controls	**4.03**	**3.65**	**29.96**	**8.97**	**0.27**	**1.65**	**neg.**

Potential To Emit of Revision

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	12.7
PM-10	11.4
SO_2	3.1
VOC	0.2
CO	Negligible
NO_x	0.5
Single HAP (worst case)	Negligible
Combination HAP	Negligible

Justification for the Revision

The FESOP is being modified through a FESOP Minor Permit Revision pursuant to 326 IAC 2-8-11.1(d)(4)(A), which states that a Minor Permit Revision shall be used for modifications that have the potential to emit "less than twenty-five (25) tons per year and equal to or greater than five (5) tons per year of either particulate matter (PM) or particulate matter less than ten (10) microns (PM-10)".

Potential to Emit of Source After Revision

The following is the unrestricted potential to emit from the source after the revision.

Pollutant	Potential To Emit (tons/year)
PM	124.76
PM10	111.74
SO_2	29.96
VOC	1.96
CO	1.65
NO_x	8.97

County Attainment Status

The source is located in Huntington County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Huntington County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Huntington County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD and Part 70 Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

	PM tons/yr	PM10 tons/yr	SO2 tons/yr	NOx tons/yr	VOC tons/yr	CO tons/yr	Comb. HAP tons/yr
Furnace	3.72	3.34	29.93	5.10	0.05	-	-
Combustion	0.31	0.31	0.03	3.87	0.22	1.65	neg.
Emissions After Controls	**4.03**	**3.65**	**29.96**	**8.97**	**0.27**	**1.65**	**neg.**

Part 70 Thresholds (tons/yr)	N/A	100	100	100	100	100	25
PSD Major Source Levels	250	250	250	250	250	250	N/A

(a) This existing source is not at this time a major Part 70 source because the PM10 PTE is limited to less than 100 tons/yr through FESOP No. 069-14274-00060.

However, if no changes are made to the source that increase emissions to the levels that establish the source as a major Part 70 source, the source will be defined a major Part 70 source on December 9, 2005, pursuant to 40 CFR 63, Subpart RRR.

Federal Rule Applicability

The federal rule applicability remains unchanged from that determined in FESOP No. 069-14274-00060.

State Rule Applicability - Entire Source

The state rule applicability for the entire source remains unchanged from that determined in FESOP No. 069-14274-00060.

State Rule Applicability - Individual Facilities

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from metal processing in the aluminum sweat furnace AS1000 shall be determined by the following:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour

shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour, and
P = process weight rate in tons per hour (0.7 tons/hr)

For a process weight rate of 0.7 pounds per hour, the PM emissions shall not exceed 3.23 pounds per hour.

The thermal afterburner of sweat furnace AS-1000 shall be in operation at all times the aluminum sweat furnace is in operation, in order to comply with this limit.

All other state rule applicabilities remain unchanged from that determined in FESOP No. 069-14274-00060.

Changes to FESOP

The following are the changes to the FESOP No. 069-14274-00060 (~~strikeout~~ to show deletions and **bold** to show additions):

(1) Facility description in Section A.2 is revised as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) aluminum sweat furnace identified as AS-1000 with a maximum capacity of ~~0.50~~ **0.70** tons of scrap metal processed per hour. The furnace is equipped with a primary metal melting chamber utilizing a natural gas fired burner rated at 2.0 million (MM) British thermal units (Btu) per hour total; a secondary molten metal holding chamber utilizing a natural gas fired burner rated at 1.0 MMBtu per hour; and a 0.4 MMBtu per hour natural gas fired thermal afterburner utilized for particulate matter and volatile organic compound control exhausting at one (1) stack identified as EP-01.

(2) Facility description in Section D.1 is revised as follows:

(a) One (1) aluminum sweat furnace identified as AS-1000 with a maximum capacity of ~~0.50~~ **0.70** tons of scrap metal processed per hour. The furnace is equipped with a primary metal melting chamber utilizing a natural gas fired burner rated at 2.0 million (MM) British thermal units (Btu) per hour total; a secondary molten metal holding chamber utilizing a natural gas fired burner rated at 1.0 MMBtu per hour; and a 0.4 MMBtu per hour natural gas fired thermal afterburner utilized for particulate matter and volatile organic compound control exhausting at one (1) stack identified as EP-01.

(3) Condition D.1.5 is revised as follows:

D.1.5 Particulate Matter (PM) Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from sweat furnaces AS-990 and AS-1000 shall not exceed 4.76 and ~~2.58~~ **3.23** pounds per hour, respectively.

Conclusion

The operation of this secondary metals recovery facility shall be subject to the conditions of the attached Minor Permit Revision No. 069-16043-00060.